

## Appendix E: Developer Notes

### E-1. Classification Banner

Table E-1 specifies the color names and RGB values<sup>1</sup> for the background of the classification banner. In each case, black is the foreground color.

**Table E-1. Color names and RGB values for the classification banner.**

<u>Classification Level</u>	<u>Color</u>	<u>Color Name and RGB Value</u>
Unclassified	Green	ForestGreen 34, 139, 34
Confidential	Blue	SkyBlue 135, 206, 235
Secret	Red	Firebrick2 238, 44, 44
Top Secret	Orange	DarkOrange 255, 140, 0

### E-2. Default CDE Color Palette and Font

Default color palette. Table E-2 specifies the color names and RGB values for CDE display elements in the default COE color palette. This palette is recommended for use in systems installed in an office-like operational environment with normal ambient lighting. The palette is based on the More Colors for Desktop (i.e., high color) setting in CDE Style Manager. CDE generates foreground color dynamically based on the background color selected; black is the foreground color used in the default palette.

**Table E-2. Color names and RGB values for CDE display elements in the default COE color palette.**

<u>Color Set ID</u>	<u>Display Element</u>	<u>Color Name and RGB Value</u>
1	Active window frame color, location cursor color, select color for toggle buttons	DarkSlateGray 47, 79, 79
2	Inactive window frame color	Gray75 191, 191, 191
3	Background color for workspace #1	Gray60 153, 153, 153
4	Background color for text entry areas and lists	Gray80 204, 204, 204
5	Background color for application's main window areas, background color for workspace #2	Gray75 191, 191, 191
6	Background color for application menu bar, menus, and dialog boxes, background color for workspace #3	Gray75 191, 191, 191
7	Background color for workspace #4	Gray40 102, 102, 102
8	Background for Front Panel and graphic in window icon	Gray40 102, 102, 102

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<sup>1</sup> In this appendix, RGB values are 8-bits each, in RGB sequence, and expressed as a decimal number (i.e., 0-255).

The CDE Style Manager provides the ability to change application colors dynamically if an application is a Motif client. Clients written with other toolkits cannot change color dynamically; color changes take effect when the client is restarted. The easiest way to use the dynamic colors provided by Style Manager is to remove any application color resources for background and foreground color. If an application currently specifies colors or is not in Motif, it is to use the colors indicated in table E-2. Otherwise, an application should not set colors and instead accept the defaults from the X Resource Manager.

**Default font.** An application uses the default CDE font aliases specified by the platform. The Style Manager provides the ability to change font size dynamically if an application uses CDE Motif; the Style Manager can also be used to modify font size in a non-CDE application but users have to restart the application for the change to take effect.

### E-3. Application Icons in CDE

An application supplies icon images in bitmap and pixmap formats (i.e., .xbm and .xpm) and in three sizes (16 x 16 pixels, 32 x 32 pixels, and 48 x 48 pixels) as indicated in table E-3. The Icon Editor in CDE provides a palette of eight static grays, eight static colors, five dynamic colors (e.g., foreground, background), and a transparent “color” that allows the background to show through. An application uses this default palette and designs icons primarily in grays, with the other colors in the palette used sparingly. An icon can fill the entire bounding box for the image or be irregular in shape. When designing the icon image, 16 x 16 and 32 x 32 icons are left-aligned within the bounding box for the image, with any empty bits to the right, and 48 x 48 icons are centered in the bounding box.

**Table E-3. Minimum required icon set for Motif applications.**

<u>Type of Icon</u>	<u>Color</u> <u>16x16</u>	<u>Color</u> <u>32x32</u>	<u>Color</u> <u>48x48</u>	<u>Mono</u> <u>16x16</u>	<u>Mono</u> <u>32x32</u>	<u>Mono</u> <u>48x48</u>
Application Icon	Required	Required	Required	Required	Required	Required
Document or File Icon	Required	Required	-----	Required	Required	-----
Folder or Container Icon	Required	Required	-----	Required	Required	-----
Minimized Window Icon	-----	-----	Required	-----	-----	Required

### E-4. Default CDE Style Configuration

The following default style configuration is recommended for COE-based systems:

#### Color

Number of Colors = More Colors for Desktop

Palette = COE default (i.e., use the COE default color palette defined above)

#### Font

Size = 3

Backdrop

Use “Background” (i.e., use the colors specified in the default color palette)

Mouse

Handedness = Right

Button 2 = Adjust (i.e., BLeft for drag transfer actions and BMiddle to extend selections)

Windows

Click In Window To Make Active = Enabled

Raise Window When Made Active = Enabled

Startup and Logout

Logout Confirmation Preference = Enabled

## E-5. Default MS Windows Color Palette and Font

Default color palette. The MS Windows Standard color palette is recommended for use in COE-based systems installed in office-like environments with normal ambient lighting. Table E-4 specifies the size and color names for the display elements in this palette. Additional information on the size of windows and controls is provided below.

**Table E-4. Size and color names for MS Windows display elements in the default COE color palette.**

<u>Display Element</u>	<u>Size (in DLUs)</u>	<u>Background Color(s)</u>	<u>Foreground Color</u>
3-D objects	----	Gray	Black
Active title bar	18	Dark Blue/Light Blue	White
Active window border	1	Gray	----
Application background	----	Dark Gray	----
Caption buttons	18	----	----
Desktop	----	Teal	----
Icon	32	----	----
Icon spacing (horizontal)	43	----	----
Icon spacing (vertical)	43	----	----
Inactive title bar	18	Dark Gray/Light Gray	Gray
Inactive window border	1	Gray	----
Menu	18	Gray	Black
Message box	----	----	Black
Palette title	15	----	----
Scroll bar	16	----	----
Selected items	18	Dark Blue	White
Tooltip	----	Light Yellow	Black
Window	----	White	Black

Default font. The default MS Windows font is recommended for use in COE-based systems. This font is 8-point MS Sans Serif if an application runs on Windows NT and 8-point Tahoma if an application runs on Windows 2000; text in menus and controls and all

other interface text use the regular style of these fonts; text in the title bar uses the bold style.

Size of windows and controls. MS Windows specifies the size and location of the controls in windows in dialog units (DLUs). One horizontal DLU equals one-fourth of the average character width for the current system font, while one vertical DLU equals one-eighth of the average character height for the current system font. MS Windows provides the following recommendations for the size of windows and controls:

- The maximum size of a secondary window is 263 x 263 DLUs. Property windows can be one of three sizes: 252 DLUs wide x 218 DLUs high, 227 DLUs wide x 215 DLUs high, or 212 DLUs wide x 188 DLUs high.
- The default height for single-line controls such as text boxes, spin boxes, and push buttons is 14 DLUs. Controls are placed 7 DLUs from the edge of the window and separated from each other by at least 4 DLUs.
- An application provides toolbar buttons in two sizes for windows that include a toolbar: 22 pixels wide x 21 pixels high and 28 pixels wide x 26 pixels high. Image size is 16 x 16 pixels and 20 x 20 pixels, respectively. Groups of related buttons are placed adjacent to each other and separated from other buttons by at least 4 DLUs.

## **E-6. Application Icons in MS Windows**

An application supplies an application icon image in bitmap or icon file format (i.e., .bmp or .ico), in 16- and 256-color versions, and in 16 x 16 pixel, 32 x 32 pixel, and 48 x 48 pixel sizes. The same basic image is used in all three sizes of icons. If an application supports multiple data types, it uses a different icon for each data type.

## **E-7. Default MS Windows Style Configuration**

The following default style configuration is recommended for COE-based systems:

### Background

Pattern: None

Wallpaper: None

### Appearance

Scheme: MS Windows Standard

### Taskbar Properties

Always on top = Enabled

Show small icons in Start menu = Enabled

## E-8. Implementation of MIL-STD 2525 Symbology

MIL-STD 2525 provides general direction concerning the design and construction of common warfighting symbology, with individual implementations tailored to operational requirements and display capabilities. The following guidelines address the rendering of symbology so it is legible and discriminable on a variety of map backgrounds. These guidelines apply to a display monitor with 1280 x 1024 pixels and full color (i.e., 256) resolution, a viewing distance of approximately 30 inches, and an office environment with normal ambient lighting.<sup>2</sup> It is recommended that these guidelines, which are derived from research on military symbology and judgments of human factors experts, be supplemented by usability testing to ensure that the implementation is optimum for the operational conditions in which the symbology will be used.

MIL-STD 2525 allows flexibility in the symbol components that are present in a given implementation. Display options available range from symbols rendered as frame, fill, and icon to symbols rendered as dots. An implementation can select one or more display options based on operational requirements and display capabilities. Table E-5 presents recommendations for some of the display options contained in the MIL-STD at several symbol sizes.

**Table E-5. Recommended symbology implementation by display hierarchy and symbol size.**

<u>Display Hierarchy</u>	<u>Symbol Size</u>			
	10x10 Pixels	20x20 Pixels	30x30 Pixels	40x40 Pixels and larger
Frame+fill+icon	No	No	Yes	Yes
Frame+icon	No	No	Yes	Yes
Frame+fill	No	Yes	Yes	Yes
Icon only	No	No	No	Yes
Frame only	No	No	Yes	Yes
Dot only	Yes	Yes	Yes	Yes

Table E-6 provides recommendations for specific symbol attributes for those symbols that are considered appropriate to render at each symbol size (i.e., the cells containing Yes in table E-5). Table E-7 lists the names and RGB values for the saturated and desaturated colors defined by MIL-STD 2525 to indicate affiliation. The following additional guidelines apply:

- If an implementation intends to display larger-size symbols (i.e., 30x30 pixels or larger), it should present symbols that have greater information content (i.e., symbols

<sup>2</sup> Other viewing environments will be addressed in a future version of this document.

with a frame and fill or with a frame and icon, rather than symbols with a frame only or a dot only).

- The line thickness for a graphic modifier (e.g., mobility, direction of movement) should be the same as that for the frame of the symbol.
- Symbols should be rendered with a color fill whenever possible since the presence of color aids in detection and identification against complex backgrounds.
- Because symbols rendered as an icon can be difficult to see on a complex background, a frame should be displayed with the icon whenever frame use is optional. If an unframed icon is displayed, it should be rendered as indicated in these guidelines.

**Table E-6. Recommended symbol attributes by display hierarchy and symbol size.**

<u>Symbol Attribute</u>	<u>Symbol Size</u>			
	10x10 Pixels	20x20 Pixels	30x30 Pixels	40x40 Pixels and larger
<u>Frame+fill+icon</u>				
Frame line color	----	----	Black	Black
Frame line thickness	----	----	1 pixel	1 pixel
Fill color	----	----	Affiliation (desaturated)	Affiliation (desaturated)
Icon color	----	----	Black	Black
Icon line thickness	----	----	1 pixel	1 pixel
<u>Frame+icon</u>				
Frame line color	----	----	Affiliation (saturated)	Affiliation (saturated)
Frame line thickness	----	----	2 pixels	2 pixels
Icon color	----	----	Affiliation (saturated)	Affiliation (saturated)
Icon line thickness	----	----	1 pixel	1 pixel
<u>Frame+fill</u>				
Frame line color	----	Black	Black	Black
Frame line thickness	----	1 pixel	1 pixel	1 pixel
Fill color	----	Affiliation (desaturated)	Affiliation (desaturated)	Affiliation (desaturated)
<u>Icon only</u>				
Icon color	----	----	----	Affiliation (saturated)
Icon line thickness	----	----	----	1 pixel
<u>Frame only</u>				
Frame line color	----	----	Affiliation (saturated)	Affiliation (saturated)
Frame line thickness	----	----	2 pixels	2 pixels
<u>Dot only</u>				
Dot color	Affiliation (saturated)	Affiliation (saturated)	Affiliation (saturated)	Affiliation (saturated)
Dot radius	5 pixels	5 pixels	5 pixels	5 pixels

**Table E-7. Names and RGB values for saturated and desaturated colors indicating affiliation.**

<u>Affiliation Category</u>	<u>Saturated Color</u>	<u>Desaturated Color</u>
Friend, Assumed Friend	Cyan (0, 255, 255)	Crystal Blue (128, 224, 255)
Unknown, Pending	Yellow (255, 255, 0)	Light Yellow (255, 255, 128)
Neutral	Neon Green (0, 255, 0)	Bamboo Green (170, 255, 170)
Hostile, Suspect, Joker, Faker	Red (255, 0, 0)	Salmon (255, 128, 128)

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